



# GSM/GPRS/GPS Tracker **GL505**

## User Manual

TRACGL505UM001

Revision: 1.00



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**Revision History**

Revision	Date	Author	Description of change
1.00	2013-11-11	Tony.Pei	Initial

## 1. Introduction

The GL505 is a powerful waterproof GPS tracker designed for fixed asset tracking applications. It is powered by two user replaceable CR123A lithium batteries. Configuration allows it to wake up on a preset schedule to check if it needs to shift from dormant to active status and/or send update of its current location, then returning to a dormant state. Optimally configured it will operate autonomously for 1000 days. Its built in 3-axis accelerometer allows the GL505 to detect asset movement and transmit an alert message. The integrated @Track interface protocol allows the GL505 to communicate with a customer mobile phone or a back end server via GPRS/SMS and transfer reports of GPS position, etc. System integrators can easily incorporate the GL505 into existing tracking systems based on this full-featured protocol.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

### 1.1. Reference

Table 1. GL505 Protocol Reference

SN	Document name	Remark
[1]	GL505 @SMS & @Track Interface Protocol	The @SMS & @Track protocol interface between GL505 and backend server.

### 1.2. Terms and Abbreviations

Table 2. Terms and Abbreviations

Abbreviation	Description
AGND	Analog Ground
AIN	Analog Input
DIN	Digital Input
DOUT	Digital Output
GND	Ground
MIC	Microphone
RXD	Receive Data
TXD	Transmit Data
SPKN	Speaker Negative
SPKP	Speaker Positive

## 2. Product Overview

### 2.1. Check Parts List

Before starting, check all the following items have been included with your GL505. If anything is missing, please contact your supplier.






Figure 1. Appearance of GL505



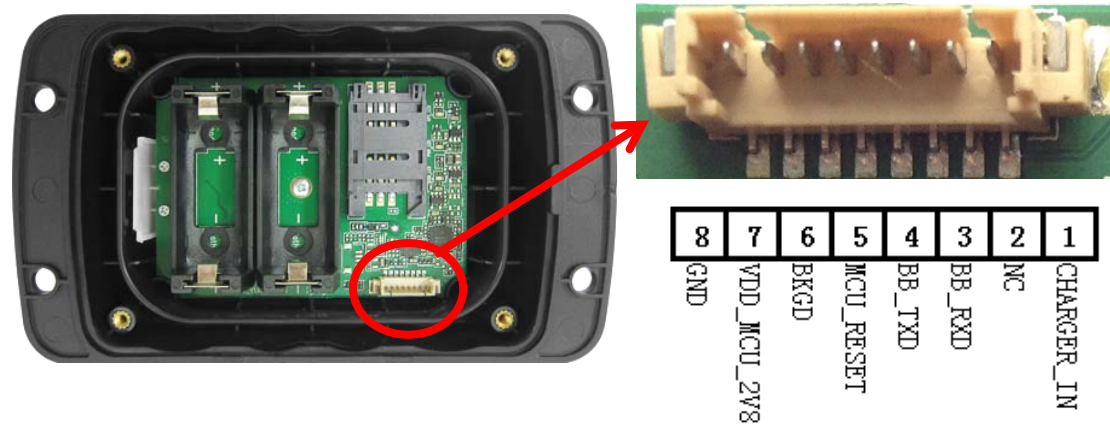
## 2.2. Parts List

Table 3. Parts List

Name	Picture
GL505 Locator	118mm * 69.5mm * 26.8mm
CR123A Battery	
GL505 Data Cable (Optional)	
GL505 MCU Download Kit (Optional)	

## 2.3. Interface Definition

The GL505 has an 8 PIN interface connector. It contains the connections for power, RS232, MCU Interface, etc. The sequence and definition of the 8PIN connector are shown in following figure:



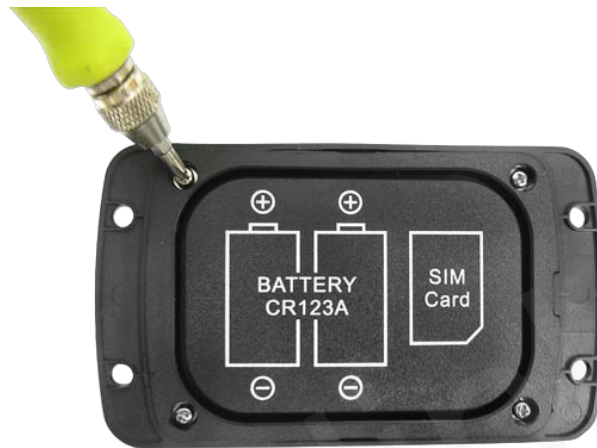
**Figure 2. The 8 PIN connector on the GL505**

**Table 4. Description of 8 PIN Connections**

Index	Description	Comment
1	CHARGER_IN	External DC power input, 5V
2	NC	Not connected
3	BB_RXD	BB UART RXD
4	BB_TXD	BB UART TXD
5	MCU_RESET	MCU CHIP RESET SIGNAL
6	BKGD	MCU CHIP BKGD SIGNAL
7	VDD_MCU_2V8	MCU POWER INPUT, 2.8V
8	GND	Power and digital ground

## 3. Getting Started

### 3.1. Opening the Case



**Figure 3. Opening the Case**

Use the Screwdriver to remove the screws, and then open the case.

### 3.2. Closing the Case

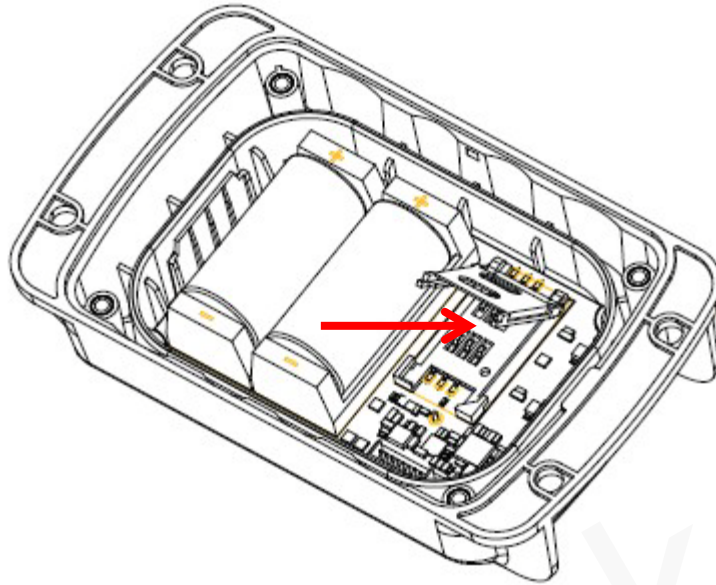


**Figure 4. Closing the Case**

Place the cover in the correct position as shown in upon figure. Please note the battery direction and SIM Card direction, and then tighten the screws with a Screwdriver.

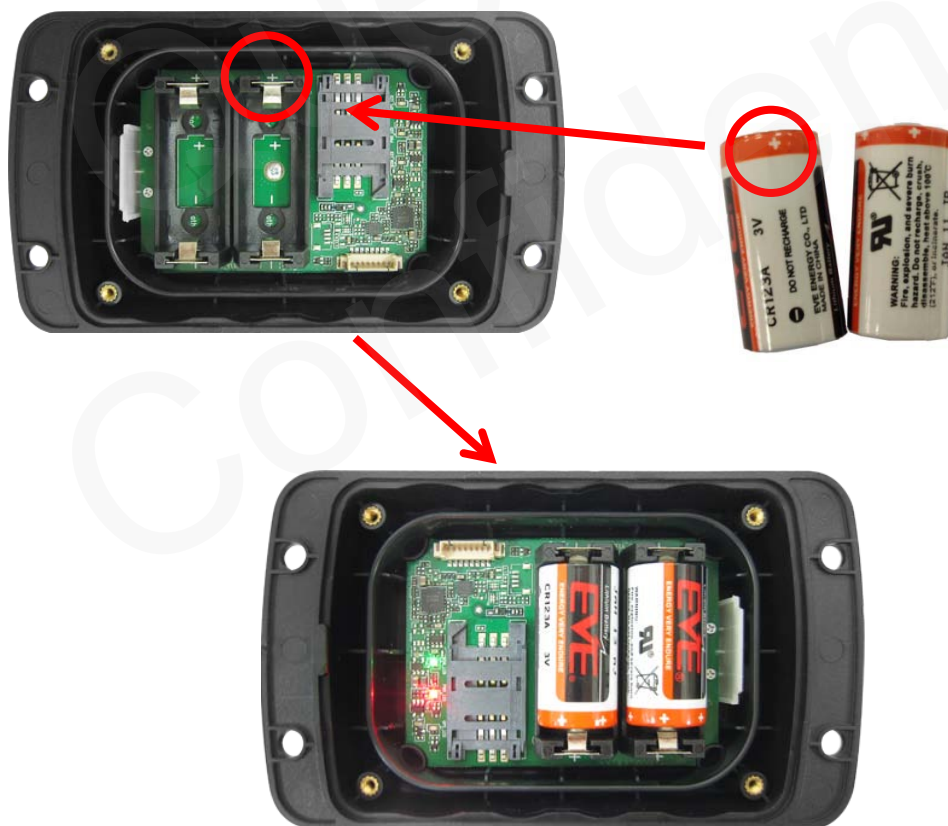
### 3.3. Installing a SIM Card

Open the case and ensure the unit is not powered (unplug the internal battery). Slide the holder right to open the SIM card. Insert the SIM card into the holder as shown below with the gold-colour contact area facing down taking care to align the cut mark. Close the SIM card holder. Close the case.



**Figure 5. SIM Card Installation**

### 3.4. Installing the Internal Backup Battery



**Figure 6. Backup Battery Installation**

There have 2pcs internal CR123A battery for GL505, Insert the battery into the holder as

shown in upon figure, please note that the polarity mark of the battery and battery holder need to be consistent.

**Note:** it is necessary and important to check the voltage of two batteries before installation and use. You should not put the two batteries with different voltage in the same machine, that will result in damage of the machine or explosion at the worst. New batteries need to installed after low battery indication(change the two batteries at the same time).

### 3.5. Power On the Device

After inserted the Battery, GL505 will power on automatically, the Status LED will start work, detail description in the next section.

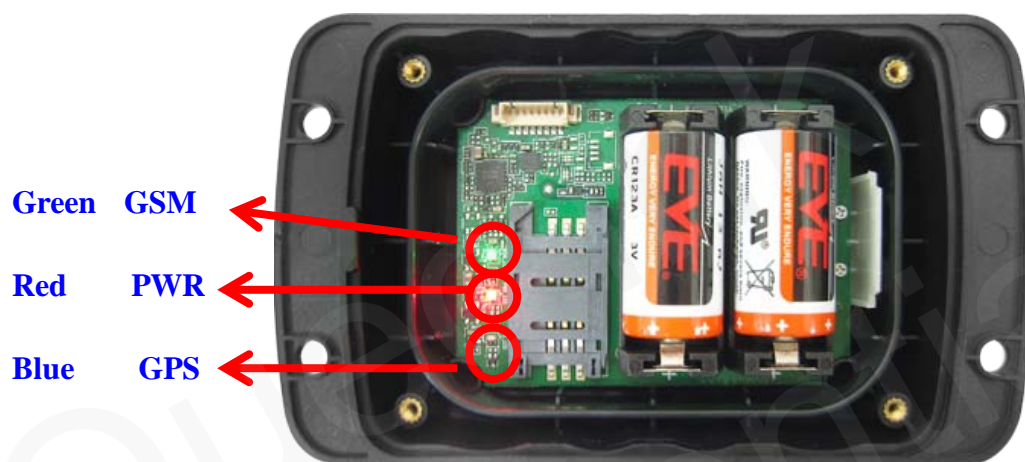


Figure 7. GL505 Status LED

### 3.6. Direction of GL505 Placed

The side with label should towards sky to ensure there is good GPS signal can be recieved.



Figure 8. Direction of GL505 Placed

### 3.7. Device Status LED

Table 5. Definition of Device status and LED

LED	Device status	LED status
GSM (Green)	Device is searching GSM network.	Fast flashing (Note1)
	Device has registered to GSM network.	Slow flashing (Note2)
	SIM card needs pin code to unlock.	ON
GPS (Blue)	GPS chip is powered off.	OFF
	GPS sends no data or data format error.	Slow flashing
	GPS chip is searching GPS info.	Fast flashing
	GPS chip has gotten GPS info.	ON
PWR (Red)	Battery voltage is lower than 0%.	OFF
	Battery voltage is below 10%.	Slow flashing
	Battery voltage is more than 10%.	ON

1 - Fast flashing is about 60ms ON/ 780ms OFF

2 - Slow flashing is about 60ms ON/ 1940ms OFF

Note:

1, In Battery mode, all LEDs are only enabled at the first 5 minutes after power on the device, and then will be shut down all the time.